Methodology

Participating Agencies

The South Dakota Behavioral Risk Factor Surveillance System is a combined effort of the SDDOH and the CDC. The Department of Health contracts with Personal Group Incorporated to collect the data through telephone interviews. The SDDOH, however, continues to supervise the survey process, designs, and distributes the report. The CDC provides financial and technical assistance, develops the questionnaire, designs the methodology, and processes the data.

Method of Surveillance

A telephone survey was used for this study rather than other survey methods because of its low cost, ease of administration, ease of reaching respondents, and reliability. Telephone surveys are less representative of areas where a significant portion of the population does not have telephones. However, according to a Federal Communications Commission report, 94.1 percent of the households in South Dakota had telephone service in 2003. It should be noted that households with only a cell phone are not eligible for this survey.

Questionnaire Development

The survey questionnaire (see Appendix B) was a collaborative effort between the CDC and SDDOH. In 2003, standard demographic questions were included along with sections on the general health status, physical activity, weight control, nutrition, cigarette smoking, alcohol consumption, hypertension awareness, cholesterol awareness, breast and cervical cancer screening, health insurance, immunization, diabetes, asthma, arthritis, disability, falls, and sun exposure. Introductions, wording of the questions and transitional phrasing between questions resulted from extensive field testing by CDC. SDDOH also added several state-specific questions to the end of the core questionnaire on various topics including adult health insurance, diabetes, children's asthma, binge drinking, women's health, flu shots, tobacco use, children's health insurance, children's oral health, children's injury prevention, and children with special health conditions.

Accuracy and Confidence Intervals

It is important to remember that this survey is based on **self-reported** data. Consequently, people may tend to report a more favorable lifestyle than actually practiced. The accuracy of self-reported data may also vary according to risk factors, i.e., self-reported smoking status is thought to be more accurate than self-reported eating habits. These limitations do not negate the survey's ability to identify high-risk groups and monitor long-term trends.

The standard error (SE) of a percentage is used in health statistics when studying or comparing percentages. The SE defines a percentage's variability and can be used to calculate a confidence interval (CI) to determine the actual variance of a percentage 95 percent of the time. Percentages for two different populations are considered to be significantly different when their confidence intervals do not overlap.

The standard error and confidence intervals are calculated differently for complex sample designs used by BRFSS than simple random sample designs. Therefore, it should be noted that the confidence intervals in this report were calculated using software specifically designed to handle these types of data. Given all of this, it could be stated with 95 percent certainty, that the actual data for South Dakota is represented within the given confidence intervals.

Eligible Respondent Selection

Eligible respondents for the survey were individuals 18 years of age or over who resided a majority of the time at the household contacted. In households with more than one eligible respondent, a random selection was made to determine the actual respondent. Automated prescreening was done to eliminate business phones and non-working numbers. "No Answers" and "Busy Signals" were re-dialed a minimum of three times on five different days at different times before they were removed.

Data Collection Process

All 5,262 interviews were completed between January 1, 2003, and December 31, 2003, at an average of 439 interviews per month.

Data Processing

The data was sent electronically to the CDC. Tables showing frequencies and percentages for many questions by demographic categories were provided to the SDDOH by the CDC. The SDDOH also produced tables showing relevant data not supplied by the CDC.

Weighting

Collecting data via telephone survey often produces an over-representation of certain demographic groups in the sample population. The sample population therefore may not be representative of the actual population. To correct this inherent problem, a weighting factor was applied to each of the questions.

Sample Description

Demographic variables including age, gender, and race were collected. The demographic results are summarized in a table displayed in Appendix A: Demographics.

Appendix A also summarizes the region, household income, education, employment status, marital status, presence of children in the household, and pregnancy status of female respondents ages 18-44 years old.

Completion Rate

The outcome of all telephone calls is shown in Table 3 on the next page. The 5,262 completed interviews represented a completion rate of 17.9 percent. The refusal rate was 10.5 percent.

Table 3
Disposition of All Telephone Numbers in the Sample, 2003

Final Outcome	Number	Percent
Completed interview	5,262	17.9%
Refused interview	3,087	10.5%
Nonworking number	14,447	49.1%
Not a private residence	2,847	9.7%
No answer (multiple times)	807	2.7%
Fax line	789	2.7%
Technological barrier	578	2.0%
Fast busy	265	0.9%
Telephone answering service (multiple times)	493	1.7%
Respondent not available during the interviewing period	601	2.0%
Interview terminated within questionnaire	100	0.3%
Line busy (multiple times)	33	0.1%
Physical/mental impairment	56	0.2%
Language barrier	20	0.1%
No eligible respondent at this number	15	0.1%
Total	**29,400**	**100%**

Source: The Behavioral Risk Factor Surveillance System, South Dakota Department of Health, 2003